Use of $P_f x e$ Diagrams

In the preparation of plans for certain post-tensioned prestressed box girder projects, designers should be aware that the use of a $P_f x e$ diagram, in lieu of showing the center of gravity of the prestressing force on the plans, may be advantageous.

Utilization of the $P_f x e$ concept allows the designer to take advantage of maximum eccentricities by placing the prestressing tendons in the top and bottom slab of a box girder section. Additionally, the contractor is offered an opportunity for innovation in construction methods, and the flexibility to tailor his post-tensioning system to fit the design prestress force.

Continuous multiple span structures where partial length tendons are appealing, such as segmental box girders, are especially suited to this design method.

Widely spaced girders (single or double cell box girders) utilizing either transverse post-tensioning or mild reinforcing steel adds to the economy of the $P_f x e$ diagram concept.

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Supersedes Memo to Designers 11-23 dated December 1988